



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No. 09/716,392

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For: ABUSE RESISTANT SKIM
COATING COMPOSITION

Examiner: CALLIE E. SHOSHO

Art Unit: 1714

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) D.C., 2023/1, on

) **Date:**

Honorable Commissioner of Patents and Trademarks
Washington, D.C. 20231

DECLARATION OF RICHARD B. STEVENS

Being duly warned, RICHARD B. STEVENS declares as follows:

1. I am one of the applicants of the above-identified application.
2. I received a B.A. degree in Chemistry & Biology in 1979 from Drake University, Des Moines, Iowa.
3. I have been employed in the Research Department of USG Corporation continuously since 1980. I have done research in the field of coatings continuously since 1982. My current title is Senior Member of the Technical Staff.
4. The preferred aggregate cited in the above-identified application (See page 7, line 22) is a commercially available sand known as

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Wedron Washed Silica Sand Frac Sand 30-50. The specifications for Frac Sand 30-50 call for at least 90% of particles passing a 30-mesh screen and at least 90% particles retained on a 50-mesh screen. This specification obviously allows for the inclusion of some particles that are outside of the specified range.

5. I measured the particle size of a sample of Frac Sand 30-50. I formed a layer closely spaced particles of sand from a sample of Frac Sand 30-50 on a micrometer measuring between two flat circular pans (it is used for paper thickness determinations). I measured the thickness of the layer of Frac Sand 30-50 as from 0.028 to 0.35 inches or from 711 to 889 microns. I repeated the measurement using other samples of Frac Sand 30-50 and found them all to be in the same range. This is well within the 0.020 to 0.050 inch range of film thickness described and claimed in the above-identified application.

6. I did another particle size measurement on the same sample of Frac Sand 30-50. I formed a layer more sparsely spaced particles of sand from a sample of Frac Sand 30-50 on the same micrometer measuring between two flat circular pans. I measured the thickness of the sparsely spaced layer of Frac Sand 30-50 as from 0.020 to 0.31 inches or from 508 to 759 microns. This too is well within the 0.020 to 0.050 inch range of film thickness described and claimed in the above-identified application.

7. I then measured some individual particles from the same sample of Frac Sand 30-50 using the same micrometer. I found many particles smaller than 0.020 inches and found some individual particles as small as 0.010

inches. This is outside the 0.020 to 0.050 inch range of film thickness described and claimed in the above-identified application.

8. I am familiar with the prior art references that have been cited in the above-identified application. Specifically, I am familiar with US Patent 6,063,472 to Takaoka et al. One of the objectives of Takaoka et al is to produce a decorative layer with a surface hardness, determined by a 45° pencil hardness, of B or above (Col 2, lines 60-61). Tables 2, 4 and 7 of Takaoka et al report the Surface Hardness of the compositions of Examples 1 through 21. All of the compositions had a pencil hardness of B, H, or HB (i.e. B or higher). The pencil hardness scale has 14 levels of hardness (6B, 5B, 4B, 3B, 2B, B, HB, F, H, 2H, 3H, 4H, 5H and 6H, per ASTM D3363). The pencil hardness levels described by Takaoka et al are near the middle of the pencil hardness scale, indicating that the films of the Takaoka et al compositions are fairly soft.

9. I measured the surface hardness of the films formed from the coating compositions of Examples 1 – 3 of the above-identified application and found all of them to have a pencil hardness of 6H, which is the hardest rating on that scale. Based on the higher surface hardness I would expect these films to be more abuse-resistant than the films made from the Takaoka et al compositions.

10. Further Declarant sayeth naught.

Warning

All statements made herein as of my own knowledge are true and all statements made herein as on information and belief are believed to be true. Declarant acknowledges that he has been warned that willful false statements and the like are punishable by fine or imprisonment or both (18 USC 1001) and may jeopardize the validity of the application or document or any patent resulting therefrom.



RICHARD B. STEVENS

July 23, 2002